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MORBIDITY AND MORTALITY WEEKLY REPORT

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Serogroup B Meningococcal Disease — Oregon, 1994

In Oregon, the incidence of meningococcal disease has increased substantially, more than doubling from 2.2 cases per 100,000 persons in 1992 to 4.6 per 100,000 in 1994—the highest incidence in Oregon since 1943. This incidence was almost fivefold higher than recent estimates for the United States during 1989-1991 (approximately one case per 100,000 persons annually) (1). This report describes meningococcal disease surveillance data from 1994 and summarizes epidemiologic and laboratory data on serogroup B meningococcal disease in Oregon during 1987-1994.

During 1994, a total of 143 cases of meningococcal disease was reported to the State Health Division. In 124 cases, *Neisseria meningitidis* was isolated from a normally sterile site (confirmed cases); in four cases, gram-negative diplococci were detected in specimens obtained from a normally sterile site or in persons who had classic symptoms after contact with a confirmed case (presumed cases). Characteristic symptoms (including petechial rash and hypotension) occurred in 14 cases; however, these cases were not culture confirmed (suspected cases). Of 115 isolates for which serogroup was known, 70 (61%) were serogroup B, 40 (35%) were serogroup C, four were serogroup Y, and one was serogroup W-135. When compared with 1992 and 1993, the serogroup-specific incidence in 1994 was higher for both serogroups B and C.

Of the 70 culture-confirmed cases of serogroup B infection, 34 (49%) occurred in females. Seven (10%) cases were fatal; of these, one occurred in a child aged 2 years, and four deaths occurred in persons aged 55-88 years.

During 1987-1992, 63% (84 of 133) of cases of serogroup B occurred in children aged <5 years; in comparison, in 1994, 27% (19 of 70) occurred in this age group. When compared with 1987-1992, the incidence of reported serogroup B disease in 1994 increased modestly among those aged <5 years (from 6.9 to 8.4), approximately 14-fold among those aged 15-19 years (from 0.4 to 5.4), and approximately fourfold among those aged ≥60 years (from 0.3 to 1.1) (Figure 1).

In 1994, serogroup B cases occurred in 17 of the 36 counties in Oregon; these counties account for 83% of the total population of Oregon. The risk for disease was highest in counties in the Willamette Valley in the northwestern part of the state. Based on investigation of serogroup B cases, six (9%) were linked to other cases. Two co-primary cases (disease in a close contact within 24 hours of disease onset in a primary case) were linked to a single primary case. Four secondary cases (disease in a

Meningococcal Disease — Continued

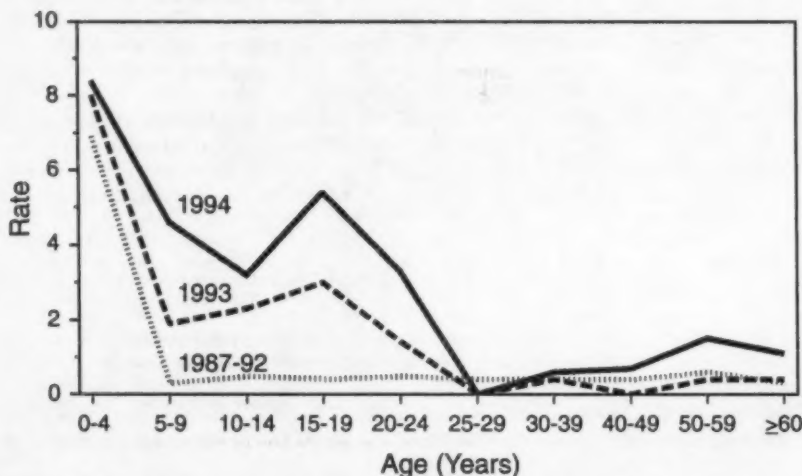
close contact >24 hours after disease onset in a primary case) were identified; at least two occurred in patients for whom appropriate chemoprophylaxis had been prescribed but who were noncompliant with therapy.

Of the 114 *N. meningitidis* serogroup B strains isolated in Oregon during 1993–1994, a total of 64 (56%) has been characterized at CDC by multilocus enzyme electrophoresis. Of these, 55 (86%) belong to the enzyme type-5 (ET-5) complex, a group of genetically related serogroup B meningococcal strains associated with epidemic meningococcal disease in other countries (2). Twelve of these isolates also have been serotyped, serosubtyped, and immunotyped; all are serotype 4 or 15, serosubtype P1.7, 16, and immunotype L3, 7, 9, 8, 10.

Reported by: K Hedberg, MD, F Hoesly, MD, D Fleming, MD, State Epidemiologist, State Health Div, Oregon Dept of Human Resources. K Steingart, MD, Southwest Washington Health District; M Goldoft, MD, P Stehr-Green, DrPH, State Epidemiologist, Washington Dept of Health. Div of Field Epidemiology, Epidemiology Program Office; Childhood and Respiratory Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: The recent increased occurrence of serogroup B meningococcal disease in Oregon has been associated with a group of closely related strains belonging to the ET-5 clonal complex. These strains were first identified as the cause of a serogroup B meningococcal epidemic in Norway that began in 1974 and persisted through 1991 (3). After its identification in 1974, serogroup B meningococci belonging to the ET-5 complex subsequently caused epidemics in Europe, Cuba, and South America (2). Endemic meningococcal disease typically is caused by a heterogeneous mix of strains. In comparison, the predominance of closely related strains, or clones, in Oregon is characteristic of epidemic disease, as is the disproportionate increase in age-specific incidence among young adults. The latter pattern has been suggested as

FIGURE 1. Incidence rate* of serogroup B meningococcal disease, by age group and year of onset — Oregon, 1987–1994



*Per 100,000 population.

Meningococcal Disease — Continued

a reliable predictor of the transition from endemic to epidemic meningococcal disease (4,5).

Although serogroup C meningococcal outbreaks have occurred with increasing frequency nationwide since 1991 (6), Oregon is the only state to report substantially increased rates of serogroup B meningococcal disease. While Washington state had only a slight increase in the overall rate of meningococcal disease in 1994, rates of serogroup B meningococcal disease in Clark County, Washington (1994 population: 280,800) (across the Columbia River from metropolitan Portland, Oregon), have increased almost fivefold (from 1.5 per 100,000 in 1987 to 7.1 per 100,000 in 1994). These increasing rates underscore the need for determining the serogroup of all isolates to assist in assessing trends in the occurrence of meningococcal disease and serogroup distribution of invasive *N. meningitidis* in other states.

The primary means for the control and prevention of serogroup B meningococcal disease is chemoprophylaxis of close contacts. The meningococcal vaccine licensed in the United States provides protection against serogroups A, C, Y, and W-135 but does not provide protection against serogroup B meningococcal disease. Meningococcal capsular polysaccharides determine serogroup and are used in purified form to produce the A/C/Y/W-135 vaccine. Unlike the other major meningococcal serogroups, however, serogroup B capsular polysaccharide is poorly immunogenic in humans. Alternate approaches to the development of a serogroup B meningococcal vaccine have focused on use of outer-membrane proteins from specific epidemic serogroup B meningococcal strains.

Three outer-membrane protein-based serogroup B meningococcal vaccines employing two-dose regimens have been effective among older children and young adults in large clinical trials outside the United States (7-9); estimated efficacies ranged from 57% to 83%. The only vaccine available commercially is not licensed for use in the United States but has been used in some South American countries to control serogroup B meningococcal epidemics. In São Paulo, Brazil, approximately 2.4 million children aged 3 months to 6 years were vaccinated during 1989 and 1990, and the vaccine was estimated to be 74% effective in children aged 4-6 years (10). Efforts to initiate studies in the United States to evaluate available vaccines under an investigational new drug application are in progress.

Oregon and three other states (California, Connecticut, and Minnesota) are participating in a cooperative agreement with CDC to study emerging infectious diseases. One focus of this program in Oregon is disease caused by *N. meningitidis* serogroup B; a study of potentially modifiable risk factors for meningococcal disease is under way.

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Meningococcal Disease — Continued

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Trends in Sexual Risk Behavior Among High School Students — United States, 1990, 1991, and 1993

Since the early 1980s, adolescents in the United States have experienced high rates of unintended pregnancies (1) and sexually transmitted diseases (STDs) (2), including HIV infection (3). Since 1990, CDC's Youth Risk Behavior Surveillance System has enabled measurement of priority health-risk behaviors among high school students at the national, state, and local levels (4). This report examines data from the 1990, 1991, and 1993 national Youth Risk Behavior Survey (YRBS)* to describe trends in selected self-reported sexual risk behaviors among U.S. high school students.

The YRBS employed a cross-sectional, three-stage, cluster sample of students in grades 9–12 in public and private schools in all 50 states and the District of Columbia. For 1990, 1991, and 1993, sample sizes were 11,631, 12,272, and 16,296, respectively, and the overall response rates were 64%, 68%, and 70%, respectively. To enable separate analysis of black and Hispanic students, schools with high proportions of these students were oversampled; numbers of students in other racial groups were too small for meaningful analysis. A weighting factor was applied to each student record to adjust for nonresponse and oversampling. Trends were assessed only for sexual risk behaviors measured by questions identically worded in each survey year. To determine temporal differences, 95% confidence intervals were calculated for each estimate by using SUDAAN (5).

From 1990 to 1993, the percentages of high school students remained constant for those who reported ever having had sexual intercourse (i.e., sexually experienced), ever having had sexual intercourse with four or more partners, having had sexual intercourse during the 3 months preceding the survey (i.e., sexually active), having used alcohol or drugs before last sexual intercourse, and having used birth control pills at last sexual intercourse (Table 1). In contrast, the percentage of those who reported condom use at last sexual intercourse increased significantly, from 46.2% in 1991 to 52.8% in 1993 (Table 1); however, subgroup analyses indicated a significant increase in condom use only among females (from 38.0% to 46.0%) and blacks (from 48.0% to 56.5%) (Table 2).

Reported by: Div of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

*The YRBS was not conducted in 1992.

Sexual Risk Behaviors — Continued

TABLE 1. Percentage of high school students who reported selected sexual risk behaviors, by year — Youth Risk Behavior Survey (YRBS), United States, 1990, 1991, and 1993*

Behavior	1990		1991		1993	
	%	(95% CI) [†]	%	(95% CI)	%	(95% CI)
Ever had sexual intercourse	54.2	(51.3%–57.1%)	54.1	(51.1%–57.1%)	53.0	(50.3%–55.7%)
Ever had sexual intercourse with four or more partners	19.0	(17.0%–21.0%)	18.7	(16.8%–20.6%)	18.8	(16.8%–20.8%)
Had sexual intercourse during the 3 months preceding the survey	39.4	(36.7%–42.1%)	37.5	(34.8%–40.2%)	37.6	(35.6%–39.6%)
Used alcohol or drugs before last sexual intercourse	NA [‡]		11.8	(10.3%–13.3%)	11.0	(10.2%–11.8%)
Used birth control pills at last sexual intercourse	14.6	(12.6%–16.6%)	17.8	(15.6%–20.0%)	18.4	(16.3%–20.5%)
Used condoms at last sexual intercourse	NA [‡]		46.2	(43.1%–49.3%)	52.8	(50.1%–55.5%) [§]

*The YRBS was not conducted in 1992.

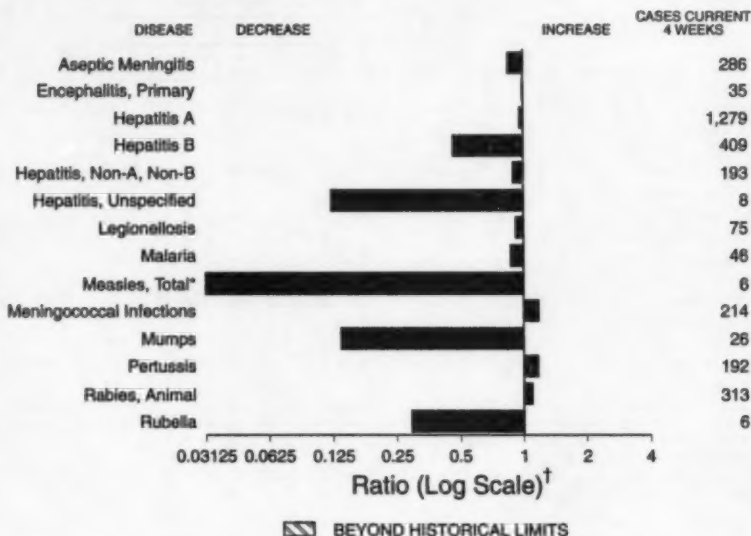
[†]Confidence interval.[‡]Data not available; the question was worded differently in 1990.[§]Significantly different at $p < 0.05$.**TABLE 2. Percentage of high school students who reported condom use at last sexual intercourse among those who had had sexual intercourse during the 3 months preceding the survey, by sex, grade, and race/ethnicity — Youth Risk Behavior Survey, United States, 1991 and 1993**

Characteristic	1991		1993	
	%	(95% CI) [*]	%	(95% CI)
Sex				
Male	54.6	(51.1%–58.1%)	59.2	(55.4%–63.0%)
Female	38.0	(33.8%–42.2%)	46.0	(43.2%–48.8%) [†]
Grade				
9th	53.3	(47.3%–59.3%)	61.6	(55.9%–67.3%)
10th	46.3	(41.8%–50.8%)	54.7	(50.2%–59.2%)
11th	48.7	(42.9%–54.5%)	55.3	(52.3%–58.3%)
12th	41.6	(37.9%–45.3%)	46.5	(42.5%–50.5%)
Race/Ethnicity[‡]				
White, non-Hispanic	46.6	(42.2%–51.0%)	52.3	(48.4%–56.2%)
Black, non-Hispanic	48.0	(44.0%–52.0%)	56.5	(52.5%–60.5%) [†]
Hispanic	37.6	(32.1%–43.1%)	46.1	(42.0%–50.2%)
Total	46.2	(43.1%–49.3%)	52.8	(50.1%–55.5%)[†]

^{*}Confidence interval.[†]Significantly different at $p < 0.05$.[‡]Numbers of students in other racial groups were too small for meaningful analysis.

(Continued on page 131)

FIGURE 1. Notifiable disease reports, comparison of 4-week totals ending February 18, 1995, with historical data — United States



*The large apparent decrease in the number of reported cases of measles (total) reflects dramatic fluctuations in the historical baseline.

[†]Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE 1. Summary — cases of specified notifiable diseases, United States, cumulative, week ending February 18, 1995 (7th Week)

	Cum. 1995		Cum. 1995
Anthrax	-	Plague	-
Aseptic Meningitis	490	Poliomyelitis, Paralytic	-
Brucellosis	9	Psittacosis	3
Cholera	-	Rabies, human	-
Congenital rubella syndrome	1	Rocky Mountain Spotted Fever	14
Diphtheria	-	Syphilis, congenital, age < 1 year [†]	-
Encephalitis, primary	57	Tetanus	3
Encephalitis, post-infectious	10	Toxic shock syndrome	19
<i>Haemophilus influenzae</i> *	180	Trichinosis	2
Hansen Disease	12	Tularemia	3
Hepatitis, unspecified	20	Typhoid fever	36
Leptospirosis	7		

*Of 175 cases of known age, 41 (23%) were reported among children less than 5 years of age.

[†]Updated quarterly from reports to the Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services. First quarter data not yet available.

-: no reported cases

TABLE II. Cases of selected notifiable diseases, United States, weeks ending February 18, 1995, and February 19, 1994 (7th Week)

Reporting Area	AIDS*	Gonorrhea		Hepatitis (Viral), by type						Legionellosis	
				A		B		NA, NB			
				Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995
UNITED STATES	5,574	43,200	49,107	2,478	2,394	750	1,454	296	509	124	195
NEW ENGLAND	312	837	1,130	21	37	13	42	6	14	1	1
Maine	15	8	5	5	3	1	-	-	-	-	-
N.H.	5	17	7	1	2	1	4	-	2	-	-
Vt.	1	3	5	-	-	-	-	-	-	-	-
Mass.	199	462	414	4	17	4	28	6	6	1	-
R.I.	9	70	61	4	10	5	2	-	6	-	-
Conn.	83	277	638	7	5	2	8	-	-	-	-
MID. ATLANTIC	1,729	2,227	4,724	105	169	71	179	37	70	11	18
Update N.Y.	186	631	806	20	27	34	34	21	19	3	2
N.Y. City	934	1,054	2,324	51	76	8	35	1	1	-	-
N.J.	379	535	64	19	40	18	52	10	40	4	3
Pa.	230	7	1,530	15	26	11	58	5	10	4	13
E.N. CENTRAL	484	10,795	10,127	393	303	92	206	28	56	38	88
Ohio	32	4,044	4,261	309	82	11	32	1	1	24	32
Ind.	38	844	1,119	19	50	21	41	1	2	6	31
Ill.	243	2,588	1,486	17	100	5	47	2	14	1	6
Mich.	140	2,990	2,342	46	41	56	53	24	39	7	16
Wis.	31	329	919	2	30	-	35	-	-	-	3
W.N. CENTRAL	102	2,617	2,586	76	116	31	73	10	3	8	16
Minn.	25	434	493	5	10	1	6	-	1	-	-
Iowa	4	204	146	8	5	9	3	2	-	2	13
Mo.	51	1,504	1,250	58	77	21	57	5	1	6	1
N. Dak.	-	-	3	-	1	-	-	-	-	-	-
S. Dak.	-	19	20	-	-	-	-	1	-	-	-
Neb.	12	-	232	-	21	-	3	-	-	-	1
Kans.	10	456	452	7	4	-	4	2	1	-	1
S. ATLANTIC	1,347	15,212	14,115	122	131	122	338	38	92	29	36
Del.	29	295	213	2	3	1	3	-	-	-	7
Md.	184	2,129	2,502	29	25	26	39	4	10	10	7
D.C.	77	782	861	1	4	7	8	-	-	1	-
Va.	136	1,396	2,054	31	10	9	12	-	5	-	2
W. Va.	4	81	87	4	1	9	4	6	1	3	1
N.C.	82	3,538	3,833	14	14	39	59	11	11	7	2
S.C.	77	1,775	1,598	-	6	3	5	-	-	3	1
Ge.	235	2,406	-	-	8	2	168	1	57	2	15
Fla.	523	2,810	2,967	41	60	26	40	14	8	3	8
E.S. CENTRAL	139	4,579	4,453	57	89	70	186	44	128	3	13
Ky.	7	632	599	10	41	6	22	1	4	1	2
Tenn.	76	83	1,413	23	13	45	152	42	124	-	7
Ala.	35	2,622	2,441	22	8	19	12	1	-	1	2
Miss.	21	1,242	-	2	7	-	-	-	-	1	2
W.S. CENTRAL	379	3,705	5,826	215	186	76	93	34	29	1	1
Ark.	20	250	835	10	7	-	4	-	-	-	-
La.	90	1,737	2,080	5	8	5	9	-	3	-	-
Okla.	35	14	564	74	34	37	37	32	25	1	1
Tex.	234	1,704	2,347	126	149	34	43	2	1	-	-
MOUNTAIN	171	1,102	1,228	582	508	70	76	45	61	20	14
Mont.	7	17	23	8	-	4	1	2	-	1	1
Idaho	5	19	11	57	39	12	6	4	16	2	-
Wyo.	1	6	18	21	3	-	3	17	12	-	-
Colo.	78	411	469	91	51	17	16	11	17	6	4
N. Mex.	7	155	145	119	128	20	29	4	4	-	1
Ariz.	37	390	267	137	233	11	11	5	4	8	1
Utah	5	1	44	129	29	2	4	2	4	1	-
Nev.	33	103	251	20	25	4	6	-	4	2	7
PACIFIC	911	2,126	4,908	907	861	205	259	56	56	13	6
Wash.	91	331	442	28	61	8	12	7	10	-	2
Oreg.	58	-	176	172	48	13	9	3	1	-	-
Calif.	704	1,614	4,131	693	719	180	225	38	43	11	5
Alaska	18	117	71	9	26	1	1	-	-	-	-
Hawaii	40	64	88	5	7	3	12	8	2	2	1
Guam	-	-	21	-	-	-	-	-	-	-	-
P.R.	65	52	73	9	1	52	18	81	2	-	-
V.I.	-	-	3	-	-	-	1	-	-	-	-
Amer. Samoa	-	4	4	2	2	-	-	-	-	-	-
C.N.M.I.	-	-	11	-	1	-	-	-	-	-	-

N: Not notifiable U: Unavailable - : no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update January 26, 1995.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 18, 1995, and February 19, 1994 (7th Week)

Reporting Area	Lyme Disease		Malaria		Measles (Rubella)						Meningococcal Infections		Mumps	
					Indigenous		Imported*		Total					
	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	1995	Cum. 1995	1995	Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	351	320	87	130	-	14	-	-	14	37	377	444	75	177
NEW ENGLAND	13	33	4	12	-	2	-	2	2	1	25	22	-	5
Maine	-	-	-	1	-	-	-	-	-	-	2	3	-	3
N.H.	-	2	-	1	-	-	-	-	-	-	-	1	-	2
Vt.	-	1	-	-	-	-	-	-	-	-	-	1	-	-
Mass.	13	3	1	3	-	-	-	-	1	1	11	7	-	-
R.I.	-	5	2	4	-	2	-	-	2	-	-	-	-	-
Conn.	-	22	1	3	-	-	-	-	-	-	12	10	-	-
MID. ATLANTIC	264	219	13	25	-	1	-	-	1	7	28	33	10	10
Upstate N.Y.	101	143	2	9	-	-	-	-	-	1	15	11	3	2
N.Y. City	-	9	3	4	-	1	-	-	1	1	-	-	-	-
N.J.	24	52	6	9	-	-	-	-	4	4	11	11	-	4
Pa.	139	15	2	3	-	-	-	-	1	2	2	11	7	13
E.N. CENTRAL	8	4	8	16	-	-	-	-	-	9	57	81	14	55
Ohio	8	4	-	1	-	-	-	-	-	7	19	20	7	8
Ind.	-	-	1	4	-	-	-	-	-	-	9	16	-	2
Ill.	-	-	6	9	-	-	-	-	-	-	22	24	-	34
Mich.	-	-	1	3	-	-	-	-	-	-	7	9	7	10
Wis.	-	-	-	-	-	-	-	-	-	2	-	12	-	1
W.N. CENTRAL	8	8	3	5	-	-	-	-	-	-	12	34	4	5
Minn.	-	1	2	-	-	-	-	-	-	-	-	1	-	-
Iowa	-	1	-	1	-	-	-	-	-	-	6	2	1	1
Mo.	-	3	1	4	-	-	-	-	-	-	4	22	3	4
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Nebr.	-	1	-	-	U	-	U	-	-	-	-	1	-	-
Kans.	6	1	-	-	-	-	-	-	-	-	2	6	-	-
S. ATLANTIC	49	39	26	31	-	-	-	-	-	3	73	75	11	34
Del.	1	5	1	2	-	-	-	-	-	-	1	-	-	-
Md.	38	5	4	4	-	-	-	-	-	-	2	5	-	6
D.C.	-	-	3	5	-	-	-	-	-	-	1	1	-	-
Va.	1	7	2	6	-	-	-	-	-	-	4	9	4	4
W. Va.	5	2	-	-	-	-	-	-	-	-	5	5	-	2
N.C.	3	12	4	1	-	-	-	-	-	-	10	10	3	15
S.C.	1	-	-	1	-	-	-	-	-	-	6	3	1	4
Ge.	-	8	3	5	-	-	-	-	-	-	24	12	-	2
Fla.	-	-	9	8	-	-	-	-	-	3	25	30	3	1
E.S. CENTRAL	-	6	1	3	-	-	-	-	-	14	19	37	3	3
Ky.	-	5	-	-	-	-	-	-	-	-	7	12	-	-
Tenn.	-	-	1	-	-	-	-	-	-	14	2	6	-	-
Ala.	-	1	1	1	-	-	-	-	-	-	8	17	2	-
Miss.	-	-	-	1	-	-	-	-	-	-	2	-	1	3
W.S. CENTRAL	-	-	-	-	-	1	-	-	1	1	42	44	4	23
Ark.	-	-	-	-	-	-	-	-	-	-	3	2	-	-
La.	-	-	-	-	-	-	-	-	-	-	5	2	1	1
Okla.	-	-	-	-	-	-	-	-	-	-	6	6	-	5
Tex.	-	-	-	-	-	1	-	-	1	1	28	34	3	17
MOUNTAIN	2	4	8	3	-	10	-	-	10	-	35	32	3	5
Mont.	-	-	1	-	-	-	-	-	-	-	1	1	-	-
Idaho	-	1	-	-	-	-	-	-	-	-	1	4	-	1
Wyo.	-	-	-	-	-	-	-	-	-	-	1	1	-	-
Colo.	1	-	5	1	-	-	-	-	-	-	9	3	-	-
N. Mex.	-	3	2	1	-	6	-	-	5	-	6	3	N	N
Ariz.	-	-	-	-	-	5	-	-	5	-	15	13	1	-
Utah	-	-	-	1	-	-	-	-	-	-	1	5	1	1
Nev.	1	-	-	-	-	-	-	-	-	-	1	2	1	3
PACIFIC	9	9	24	35	-	-	-	-	-	2	86	88	26	28
Wash.	-	-	3	1	-	-	-	-	-	-	6	6	1	1
Oreg.	-	-	2	1	-	-	-	-	-	-	24	15	N	N
Calif.	9	9	17	29	-	-	-	-	-	2	55	62	22	24
Alaska	-	-	1	-	U	-	U	-	-	-	-	2	-	2
Hawaii	-	-	1	4	-	-	-	-	-	-	1	3	1	1
Guam	-	-	-	-	U	-	U	-	-	1	-	-	-	1
P.R.	-	-	-	-	-	-	-	-	-	2	8	1	-	-
V.I.	-	-	-	-	U	-	U	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	U	-	U	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	1	U	-	U	-	-	21	-	-	-	-

*For imported measles, cases include only those resulting from importation from other countries.

N: Not notifiable

U: Unavailable

-: no reported cases

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 18, 1995, and February 19, 1994 (7th Week)

Reporting Area	Pertussis			Rubella			Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	1995	Cum. 1995	Cum. 1994	1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	33	341	527	3	17	23	1,952	2,389	1,447	1,793	617	612
NEW ENGLAND	-	23	36	-	1	12	25	25	23	31	189	175
Maine	-	5	2	-	-	-	-	-	-	-	-	-
N.H.	-	-	8	-	-	-	1	-	-	1	-	-
Vt.	-	2	7	-	-	-	-	-	-	1	22	19
Mass.	-	14	17	-	1	12	10	6	9	7	97	74
R.I.	-	-	2	-	-	-	-	4	6	2	-	4
Conn.	-	2	2	-	-	-	14	15	8	21	47	65
MID. ATLANTIC	11	34	95	-	-	1	130	182	184	209	138	144
Upstate N.Y.	11	18	23	-	-	1	11	16	13	35	85	88
N.Y. City	-	4	7	-	-	-	89	134	74	115	-	-
N.J.	-	-	6	-	-	-	24	5	45	38	31	35
Pa.	-	12	59	-	-	-	6	27	52	21	22	21
E.N. CENTRAL	5	51	156	-	-	4	331	300	197	175	1	3
Ohio	3	22	47	-	-	-	115	121	39	34	1	-
Ind.	1	1	10	-	-	-	27	39	4	11	-	-
IL	-	-	58	-	-	4	122	59	105	94	-	-
Mich.	1	28	5	-	-	-	41	32	46	31	-	1
Wis.	-	-	33	-	-	-	26	49	3	5	-	2
W.N. CENTRAL	-	10	12	-	-	-	101	178	40	35	31	14
Minn.	-	-	-	-	-	-	3	8	6	6	-	-
Iowa	-	1	-	-	-	-	10	9	12	3	10	8
Mo.	-	2	5	-	-	-	88	161	14	18	5	1
N. Dak.	-	1	-	-	-	-	-	-	-	1	4	-
S. Dak.	-	-	-	-	-	-	-	-	-	4	7	1
Nebr.	U	-	1	U	-	-	-	-	-	-	-	-
Kans.	-	5	6	-	-	-	-	-	8	3	5	4
S. ATLANTIC	1	36	75	1	1	1	476	769	234	334	291	191
Del.	-	1	-	-	-	-	3	1	-	-	-	-
Md.	-	-	25	-	-	-	22	30	64	31	48	2
D.C.	-	1	-	-	-	-	20	25	15	18	1	1
Va.	-	-	9	-	-	-	61	83	10	45	36	45
W. Va.	-	-	1	-	-	-	-	1	13	5	8	7
N.C.	-	30	26	-	-	-	156	285	11	-	40	13
S.C.	-	1	5	-	-	-	81	97	30	55	10	17
Ge.	-	1	5	-	-	-	66	125	40	87	36	44
Fla.	1	2	4	1	1	1	67	142	51	91	12	-
E.S. CENTRAL	-	9	19	-	-	-	553	244	89	114	26	22
Ky.	-	-	3	-	-	-	34	35	15	20	3	-
Tenn.	-	-	13	-	-	-	18	112	-	32	11	9
Ala.	-	9	3	-	-	-	88	97	52	46	12	13
Miss.	-	-	-	-	-	-	413	-	22	16	-	-
W.S. CENTRAL	-	3	16	-	6	-	307	530	36	62	9	9
Ark.	-	-	-	-	-	-	94	54	10	4	-	3
La.	-	-	1	-	-	-	149	291	-	-	7	-
Okla.	-	-	12	-	-	-	17	17	1	6	2	6
Tex.	-	3	3	-	6	-	47	108	25	52	-	-
MOUNTAIN	12	124	21	2	2	-	28	34	85	60	7	9
Mont.	-	2	-	-	-	-	1	-	-	-	3	-
Idaho	11	35	5	-	-	-	-	-	2	2	-	-
Wyo.	-	-	-	-	-	-	2	-	-	-	-	2
Colo.	-	-	10	-	-	-	16	16	-	-	-	-
N. Mex.	-	3	2	-	-	-	1	-	13	9	-	-
Ariz.	-	83	4	2	2	-	6	9	37	33	4	7
Utah	-	-	-	-	-	-	-	4	3	-	-	-
Nev.	1	1	-	-	-	-	-	3	30	16	-	-
PACIFIC	4	51	95	-	7	5	1	127	559	773	15	45
Wash.	3	4	8	-	-	-	1	2	32	33	-	-
Oreg.	-	-	9	-	-	-	-	-	2	14	-	-
Calif.	1	44	75	-	7	5	-	125	499	608	15	32
Alaska	U	-	-	U	-	-	-	-	3	11	-	13
Hawaii	-	3	3	-	-	-	-	-	23	27	-	-
Guam	U	-	-	U	-	-	-	1	-	7	-	-
P.R.	U	-	-	-	-	-	28	54	-	-	7	6
V.I.	U	-	-	U	-	-	-	1	-	-	-	-
Amer. Samoa	U	-	-	U	-	-	-	-	1	-	-	-
C.N.M.I.	U	-	-	U	-	-	-	-	-	12	-	-

U: Unavailable - : no reported cases

TABLE III. Deaths in 121 U.S. cities,* week ending
February 18, 1995 (7th Week)

Reporting Area	All Causes, By Age (Years)						P&I ¹ Total	Reporting Area	All Causes, By Age (Years)						P&I ¹ Total
	All Ages	≥85	45-64	25-44	1-24	<1			All Ages	≥85	45-64	25-44	1-24	<1	
NEW ENGLAND	649	485	109	47	12	16	52	S. ATLANTIC	1,359	871	276	158	35	16	89
Boston, Mass.	180	125	35	10	4	6	8	Atlanta, Ga.	200	124	44	24	6	2	10
Bridgeport, Conn.	30	26	-	4	-	-	2	Baltimore, Md.	289	166	57	38	8	-	23
Cambridge, Mass.	30	24	6	-	-	-	2	Charlotte, N.C.	93	58	18	12	3	2	10
Fall River, Mass.	25	22	2	1	-	-	-	Jacksonville, Fla.	170	109	35	19	3	4	14
Hartford, Conn.	80	47	18	9	3	5	2	Miami, Fla.	110	58	30	17	5	2	1
Lowell, Mass.	25	16	5	4	-	-	3	Norfolk, Va.	60	41	8	6	4	1	6
Lynn, Mass.	14	7	3	3	1	-	3	Richmond, Va.	U	U	U	U	U	U	U
New Bedford, Mass.	28	19	4	4	1	-	1	Savannah, Ga.	51	39	9	2	-	1	1
New Haven, Conn.	46	34	6	4	-	2	2	St. Petersburg, Fla.	39	32	5	2	-	-	1
Providence, R.I.	58	44	8	4	-	-	1	Tampa, Fla.	205	154	36	13	2	-	19
Somerville, Mass.	7	4	2	1	-	-	-	Washington, D.C.	156	89	34	25	4	4	4
Springfield, Mass.	45	30	11	-	2	2	10	Wilmington, Del.	6	3	-	-	-	-	-
Waterbury, Conn.	17	12	4	-	-	1	3	E.S. CENTRAL	804	525	158	72	21	27	73
Worcester, Mass.	86	55	7	3	1	-	14	Birmingham, Ala.	109	67	24	8	5	5	1
MID. ATLANTIC	2,535	1,702	462	286	32	33	155	Chattanooga, Tenn.	57	34	16	5	1	1	3
Albany, N.Y.	60	38	10	9	-	2	9	Knoxville, Tenn.	80	59	17	2	1	1	11
Albion, Pa.	20	14	4	2	-	-	1	Lexington, Ky.	54	37	9	5	1	1	4
Buffalo, N.Y.	105	89	15	-	1	-	5	Memphis, Tenn.	213	138	42	19	6	8	24
Camden, N.J.	24	15	5	1	1	2	1	Mobile, Ala.	57	39	9	6	-	3	2
Elizabeth, N.J.	22	17	5	-	-	-	2	Montgomery, Ala.	68	46	9	8	1	4	12
Erie, Pa.	43	29	12	2	-	-	1	Nashville, Tenn.	166	105	32	19	6	4	16
Jersey City, N.J.	58	31	14	9	1	1	-	W.S. CENTRAL	1,603	1,007	332	167	58	38	126
New York City, N.Y.	1,541	999	302	201	19	20	81	Austin, Tex.	66	40	9	12	5	-	5
Newark, N.J.	81	20	19	20	1	1	4	Baton Rouge, La.	56	31	14	6	1	4	2
Pateron, N.J.	33	15	11	5	-	2	2	Corpus Christi, Tex.	66	52	8	2	3	1	4
Philadelphia, Pa.	UU	-	-	-	-	-	-	Dallas, Tex.	216	129	53	22	7	5	7
Pittsburgh, Pa.	103	72	17	11	1	2	13	El Paso, Tex.	63	37	16	6	1	3	3
Reading, Pa.	15	13	-	1	1	-	1	Ft. Worth, Tex.	100	65	15	8	5	7	12
Rochester, N.Y.	151	128	17	4	2	2	21	Houston, Tex.	467	285	110	61	22	8	65
Schenectady, N.Y.	29	19	8	2	-	-	3	Little Rock, Ark.	68	43	17	6	1	1	3
Schenectady, Pa.	38	26	9	2	1	-	5	New Orleans, La.	137	85	25	15	9	3	-
Syracuse, N.Y.	116	88	18	7	3	-	8	San Antonio, Tex.	162	130	36	21	2	3	13
Trenton, N.J.	62	45	10	6	-	1	9	Shreveport, La.	60	43	15	2	-	-	4
Utica, N.Y.	11	9	1	1	-	-	2	Tulsa, Okla.	112	67	14	6	2	3	8
Yonkers, N.Y.	45	36	5	3	1	-	5	MOUNTAIN	866	568	157	91	25	24	76
E.N. CENTRAL	2,395	1,545	466	229	105	50	178	Albuquerque, N.M.	67	62	18	5	3	1	2
Akron, Ohio	49	38	8	3	-	-	-	Colo. Springs, Colo.	47	32	9	3	2	1	5
Canton, Ohio	39	25	8	-	-	-	2	Denver, Colo.	143	91	21	19	5	7	12
Chicago, Ill.	479	228	86	92	81	10	18	Las Vegas, Nev.	171	107	36	19	7	3	12
Cincinnati, Ohio	230	147	60	13	7	3	19	Ogden, Utah	U	U	U	U	U	U	U
Cleveland, Ohio	153	87	38	15	5	8	5	Phoenix, Ariz.	134	86	24	12	5	6	11
Columbus, Ohio	170	119	28	16	6	1	23	Pueblo, Colo.	36	29	6	1	-	-	6
Dayton, Ohio	107	78	26	5	-	-	6	Salt Lake City, Utah	110	78	17	15	-	-	16
Detroit, Mich.	218	121	62	21	6	8	12	Tucson, Ariz.	138	83	29	17	3	6	12
Evansville, Ind.	52	42	8	1	-	1	4	PACIFIC	1,021	686	178	87	22	15	104
Fort Wayne, Ind.	56	36	11	8	1	-	1	Berkeley, Calif.	17	9	5	2	-	1	-
Gary, Ind.	23	12	6	4	1	-	-	Fresno, Calif.	64	50	9	3	2	-	6
Grand Rapids, Mich.	71	58	9	2	1	3	7	Glendale, Calif.	U	U	U	U	U	U	U
Indianapolis, Ind.	214	145	39	18	5	7	17	Honolulu, Hawaii	79	53	14	7	2	2	11
Madison, Wis.	72	55	7	8	1	1	13	Long Beach, Calif.	84	49	16	16	2	1	18
Milwaukee, Wis.	141	110	20	8	1	2	14	Los Angeles, Calif.	U	U	U	U	U	U	U
Peoria, Ill.	35	25	9	-	-	-	2	Pasadena, Calif.	21	16	4	1	-	-	4
Rockford, Ill.	45	30	8	5	-	-	9	Portland, Oreg.	114	82	16	9	4	3	4
South Bend, Ind.	56	47	8	1	-	-	9	Sacramento, Calif.	U	U	U	U	U	U	U
Toledo, Ohio	111	81	15	6	7	2	13	San Diego, Calif.	U	U	U	U	U	U	U
Youngstown, Ohio	74	81	8	3	1	-	1	San Francisco, Calif.	172	102	27	29	-	3	22
W.N. CENTRAL	777	568	116	49	15	20	58	San Jose, Calif.	179	128	33	11	5	1	22
Des Moines, Iowa	37	23	10	1	1	2	1	Santa Cruz, Calif.	25	20	4	1	-	-	3
Duluth, Minn.	28	22	5	1	-	-	2	Seattle, Wash.	126	79	28	15	3	1	3
Kansas City, Kans.	36	28	5	2	1	-	1	Spokane, Wash.	45	38	1	-	4	2	8
Kansas City, Mo.	105	89	12	9	2	2	7	Tacoma, Wash.	85	70	21	3	-	1	4
Lincoln, Neb.	48	34	11	2	-	1	4	TOTAL	12,009 ²	7,945	2,274	1,196	325	239	911
Minneapolis, Minn.	224	171	29	13	7	4	17								
Omaha, Neb.	101	78	15	5	1	4	7								
St. Louis, Mo.	135	100	18	12	2	3	17								
St. Paul, Minn.	U	U	U	U	U	U	U								
Wichita, Kans.	63	43	11	4	1	4	2								

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

¹Pneumonia and influenza.

²Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

U Total includes unknown ages.

U Unavailable - not reported cases

Sexual Risk Behaviors — Continued

Editorial Note: During the 1980s, the proportion of adolescents who reported being sexually experienced increased substantially in the United States (6). The findings in this report indicate that, from 1990 through 1993, the proportion of high school students who reported being sexually experienced remained stable, while an increasing percentage of sexually active students used condoms, thereby reducing their risk for unintended pregnancy and STDs, including HIV infection.

The sex, grade, and race/ethnicity findings in this report may assist in identifying groups with higher prevalences of sexual risk behaviors. However, the underlying causes (e.g., education levels, economic factors, or cultural influences) for within-subgroup differences could not be addressed in this study.

In 1991 and 1992, two health outcomes associated with sexual risk behaviors—live births and gonorrhea—also declined. Live-birth rates among 15–19-year-olds decreased in 40 states and the District of Columbia, increased in eight states, and were stable in two states. In addition, rates of gonorrhea decreased among 15–19-year-old males in 45 states and the District of Columbia and among 15–19-year-old females in 41 states and the District of Columbia. Of the 41 areas reporting declines in live-birth rates, 34 also reported declines in gonorrhea rates for both males and females; six other states reported declines for either males or females. Overall, live-birth rates for adolescents decreased significantly (2%) (7), and gonorrhea rates decreased significantly among both adolescent males and adolescent females (20% and 13%, respectively) (8).

The plateau in the proportion of high school students who reported being sexually experienced, the increasing rates of condom use among high school students, and the decreasing rates of live births and gonorrhea among adolescents may reflect, in part, efforts to reduce risks for HIV infection and other STDs among adolescents. For example, since 1986, CDC has collaborated with local, state, and national health and education agencies, national and community-based organizations, and the media to increase development, implementation, and awareness of HIV-prevention education programs for youth.

Despite the decreases in live-birth rates and gonorrhea rates and the increases in condom use, the findings in this report document that many adolescents continue to be at risk for HIV infection, other STDs, and unintended pregnancy because they engage in unprotected sexual intercourse. Efforts to assist all adolescents in delaying first sexual intercourse and increasing condom use among those who do engage in sexual intercourse must be emphasized by health, education, and social service agencies and providers.

The data presented in this report and other data describing changes in rates of pregnancy, abortion, live birth, and gonorrhea among adolescents during the 1980s and 1990s have been summarized by state and for the nation in a new CDC monograph[†], *Adolescent Health: State of the Nation—Pregnancy, Sexually Transmitted Diseases, and Related Risk Behaviors Among U.S. Adolescents* (8).

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[†]Single copies of this document are available from CDC's Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, Mailstop K-33, 4770 Buford Highway, NE, Atlanta, GA 30341-3724; telephone (404) 488-5330.

Sexual Risk Behaviors — Continued

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Update: Influenza Activity — New York and United States, 1994-95 Season

Influenza activity in the United States during the current influenza season began in the Northeast, and during late January, spread to other regions of the country. This report describes influenza outbreaks in nursing homes in New York and summarizes national influenza surveillance data from October 2, 1994, through February 11, 1995.

New York

The first influenza outbreak reported to CDC during the 1994-95 season occurred in a 300-bed skilled-nursing facility in Long Island, New York. On November 30, 1994, eight residents on one 20-bed corridor developed influenza-like illness (ILI) (i.e., fever ≥ 100 F [≥ 38 C] and cough). On December 1, nasopharyngeal swab specimens from these eight residents were submitted for rapid antigen testing; within 5 hours after transport to the laboratory, influenza type A was detected by enzyme immunoassay in six specimens. On the evening of December 1, 293 of the 299 residents in the facility each received 100 mg of amantadine hydrochloride as treatment for the eight ill residents and as prophylaxis against influenza A infection for the other 285 residents. Most (285 [95%]) residents had received influenza vaccine before the outbreak. On December 2, as part of the nursing home's contingency plan for influenza outbreaks, amantadine dosages were modified for individual residents based on estimated creatinine clearance (1,2), and prophylaxis was continued for 14 days. Other outbreak-control measures included confining ill residents to their rooms for at least 72 hours after the initiation of amantadine treatment and prophylaxis, confining all residents to their individual units, suspending group activities, and minimizing the assignment of nursing staff to multiple units. The amantadine dosage subsequently was discontinued for five residents and reduced for 13 residents because of side effects (primarily confusion and agitation); for most patients, side effects resolved within 48 hours of dosage adjustment.

During the first 48 hours of amantadine prophylaxis and treatment, six additional residents developed ILI. Of the 14 residents who developed outbreak-associated ILI,

Influenza Activity — Continued

five subsequently developed clinical pneumonia. During the 2-week period of amantadine prophylaxis, sporadic cases of febrile respiratory illness occurred in other units of the facility; however, there was no clustering of cases.

Tissue culture of all eight nasopharyngeal specimens yielded influenza type A(H3N2). These isolates were further characterized at CDC; all were antigenically similar to the A/Shangdong/09/93 strain included in the 1994–95 influenza vaccine.

Influenza surveillance in New York state indicated increasing activity beginning in late November 1994. From December 1, 1994, through February 11, 1995, outbreaks associated with influenza type A(H3N2) in 46 other nursing homes were reported to the New York State Department of Health (NYSDOH); of these, 16 were reported from nursing homes in Long Island. For all 16 facilities, influenza type A infection was documented by rapid antigen detection; in 13 facilities, amantadine was administered as an outbreak-control measure. Outbreaks in five other nursing homes were caused by influenza type B and, in two nursing homes, by influenza types A and B. Based on findings of virologic surveillance in New York, influenza has occurred in persons in all age groups during the 1994–95 season. Of the 385 influenza virus isolates reported by laboratories in New York this season, 332 (86%) have been type A.

United States

From November 27, 1994, through January 21, 1995, most influenza activity was reported from the Northeast (3). However, during January 22–February 11, regional or widespread activity was reported from states in every region.

Through February 11, World Health Organization collaborating laboratories reported 1282 influenza virus isolates; of these, 923 (72%) isolates have been type A and 359 (28%) have been type B. Of the influenza A isolates that have been subtyped, all have been type A(H3N2).

The proportion of deaths attributable to pneumonia and influenza reported from 121 U.S. cities slightly exceeded the epidemic threshold during six of the 19 weeks from October 2, 1994, through February 11, 1995, but has not exceeded the threshold for any 2 consecutive weeks.

Reported by: IH Gomolin, MD, Gurwin Jewish Geriatric Center, Commack, New York; HB Leib, MS, RJ Gallo, S Kondracki, G Brady, G Birkhead, MD, DL Morse, MD, State Epidemiologist, New York State Dept of Health. Participating state and territorial epidemiologists and state public health laboratory directors. World Health Organization collaborating laboratories. Sentinel Physicians Influenza Surveillance System of the American Academy of Family Physicians. WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: Influenza vaccination is 70%–90% effective in preventing ILI in young, healthy adults when the vaccine antigens closely match the circulating influenza virus strains. Because of the decreased immunologic response among the elderly, the vaccine is less effective in preventing the occurrence of ILI in nursing home residents (i.e., 30%–40% effective) (4). However, vaccination of nursing home residents is associated with a substantial (i.e., 50%–60% effectiveness) reduction in the occurrence of serious complications and hospitalization and with preventing death (up to 80% effective); in addition, vaccination reduces the risk for outbreaks in nursing home settings (4,5). Antiviral agents are recommended as an adjunct to vaccination in controlling influenza type A. To control influenza A outbreaks in the nursing home setting, antiviral

Influenza Activity — Continued

drugs should be administered to all residents, regardless of influenza vaccination status.

Influenza outbreak-control measures used in the New York nursing home (e.g., rapid influenza A antigen detection and prompt initiation of antiviral treatment and prophylaxis to all residents) were based on recommendations of the Advisory Committee on Immunization Practices (ACIP) (3,6) and CDC and are actively promoted by NYSDOH. Although annual influenza vaccination of nursing home residents is considered a standard of care, use of antiviral agents as an adjunct to vaccination is less common, reflecting, in part, concern about side effects and, until recently, the protracted time required for laboratory confirmation of influenza type A.

The use of amantadine as an adjunct for the control of influenza type A outbreaks in New York during the current season illustrates the usefulness of education about and promotion of the use of antiviral agents and rapid influenza diagnostic methods. In September 1994, NYSDOH mailed information to all health-care facilities in New York urging health-care providers to administer vaccine in accordance with the recommendations of the ACIP, to use rapid antigen-detection testing and viral culture when institutional outbreaks of ILI are initially recognized, and to use amantadine when appropriate. On December 20, the NYSDOH sent an electronic mail message to these institutions to report the rapid identification of influenza type A in the first nursing home outbreak and to reinforce the recommendations for influenza control measures in health-care facilities.

Recommendations of the ACIP for use of amantadine and rimantadine, the two antiviral drugs currently available for treatment and prophylaxis of influenza type A, were published in *MMWR* on December 30, 1994 (4). These recommendations also provide information for assisting health-care providers in selecting the appropriate drug for specific patient groups but do not recommend preferential use of either drug.

As influenza activity continues to increase in the United States, health-care providers should be informed about findings of local, state, and national influenza surveillance and be familiar with methods for rapid viral diagnosis. Updated information about national influenza surveillance is available through the CDC Information System by voice or fax (404) 332-4551. In addition, providers should develop contingency plans to control influenza outbreaks that include the use of rapid diagnosis. When possible, policy decisions regarding use of amantadine and rimantadine should be made before outbreaks occur.

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Notice to Readers**Availability of Draft Recommendations
for HIV Counseling and Testing for Pregnant Women**

CDC is requesting public review and comment on the draft document *U.S. Public Health Service Recommendations for HIV Counseling and Testing for Pregnant Women*. This document is available from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 217-0023. Written comments must be received by April 10, 1995, and should be mailed to CDC's Technical Information Activity, Division of HIV/AIDS, Mailstop E-49, 1600 Clifton Road, NE, Atlanta, GA 30333; fax (404) 639-2007.

Erratum: Vol. 44, No. 5

In the article "Update: AIDS Among Women—United States, 1994," on page 81, the sentence beginning on the fourth line was incorrect. The sentence should read, "Women with AIDS reported in 1994 represented 24% of the cumulative total of 58,428 cases among women."

The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 783-3238.

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David Satcher, M.D., Ph.D.
Deputy Director, Centers for Disease Control
and Prevention
Claire V. Broome, M.D.
Director, Epidemiology Program Office
Stephen B. Thacker, M.D., M.Sc.

Editor, *MMWR* Series
Richard A. Goodman, M.D., M.P.H.
Managing Editor, *MMWR* (weekly)
Karen L. Foster, M.A.
Writers-Editors, *MMWR* (weekly)
David C. Johnson
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Darlene D. Rumph-Person
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